

CLAIMS

What is claimed is:

1. A temperature unit to control a temperature of a device under test, comprising:
a heater block disposed opposite the device under test and which generates heat receivable by the device under test across a gap; and
an actuator which moves the heater block so as to adjust the gap while the heater block generates the heat so as to vary an amount of the heat received at the device under test so as to adjust the temperature of the device under test.
2. The temperature unit of claim 1, wherein:
the actuator increases the gap so as to increase a thermal resistance between the heater block and the device under test so as to decrease the amount of the heat received at the device under test, and
the actuator decreases the gap so as to decrease the thermal resistance between the heater block and the device under test so as to increase the amount of the heat received at the device under test.
3. The temperature unit of claim 2, further comprising a medium disposed in the gap and which has the thermal resistance.
4. The temperature unit of claim 1, wherein the actuator further comprises a screw turnable by the actuator to adjust the gap between the heater block and the device under test.
5. The temperature unit of claim 1, further comprising a housing which houses the actuator and the heater block and which includes an interface to hold the device under test, wherein the housing is connectable to a handler for use in automated testing equipment.

6. The temperature unit of claim 1, further comprising a controller which controls the actuator and the heater block, wherein the controller includes information regarding heater block and actuator settings used to achieve a variety of temperatures of the device under test.

7. A temperature unit to control a temperature of a device under test using a fluid, comprising:

a block disposed opposite the device under test and which defines a gap therebetween and through which the fluid passes over the device under test at a gap flow rate; and

an actuator which moves the block so as to adjust the gap and vary the gap flow rate of the fluid flowing over the device under test so as to adjust the temperature of the device under test.

8. The temperature unit of claim 7, wherein the block comprises a heater block which generates heat receivable by the device under test across the gap.

9. The temperature unit of claim 7, further comprising:

a passageway through which fluid flows through the temperature unit; and

a valve which controls an initial flow rate of the fluid introduced into the passageway, wherein the actuator adjusts the gap so as to vary the gap flow rate from the initial flow rate.

10. The temperature unit of claim 7, further comprising:

a passageway through which fluid flows through the temperature unit; and

a pump which controls an initial flow rate of the fluid introduced into the passageway, wherein the actuator adjusts the gap so as to vary the gap flow rate from the initial flow rate.

11. The temperature unit of claim 10, further comprising a valve through which the fluid passes between the passageway and the pump.

12. The temperature unit of claim 11, wherein the valve is closed in order to create a suction force at the gap using the pump sufficient to hold a weight of the device under test.

13. The temperature unit of claim 12, wherein the block comprises a heater block which generates heat receivable by the device under test across the gap.

14. The temperature unit of claim 13, wherein, while the suction force is created, the heater block generates the heat so as to adjust the temperature of the device under test.

15. The temperature unit of claim 7, further comprising a controller which controls the actuator, wherein the controller includes information regarding actuator settings used to adjust the gap flow rate to achieve a variety of temperatures of the device under test.

16. The temperature unit of claim 8, further comprising a controller which controls the actuator and the heater block, wherein the controller includes information regarding heater block and actuator settings used to achieve a variety of temperatures of the device under test.

17. The temperature unit of claim 11, further comprising a controller which controls the actuator, the pump, the heater block, and the valve, wherein the controller includes information regarding actuator, pump, heater block, and valve settings used to achieve a variety of temperatures of the device under test.

18. The temperature unit of claim 17, wherein the controller further includes information regarding actuator, pump, heater block, and valve settings used to create a suction force at the gap sufficient to hold a weight of the device under test.

19. The temperature unit of claim 7, wherein the block further comprises an extended portion which extends from the block into the passageway to define a contour of the gap opposite the device under test.

20. The temperature unit of claim 7, wherein the extended portion is detachable from the block.

21. A computer readable medium encoded with processing instructions for implementing a method of controlling a temperature of a device under test performed by a computer, the method comprising:

determining actuator and heater block settings required to achieve a required temperature for the device under test;

adjusting a heater block to generate heat according to the determined heater block setting; and

adjusting the actuator to move the heater block to a distance above the device under test according to the determined actuator setting.

22. The computer readable medium of claim 21, the method further comprising detecting a present temperature of the device under test and adjusting one of the heater block and the actuator if the present temperature is not the required temperature.

23. The computer readable medium of claim 21, wherein the determining the actuator and heater block settings comprises detecting a present temperature of the device under test and determining the heater block and the actuator settings if the present temperature is not the required temperature.

24. A computer readable medium encoded with processing instructions for implementing a method of controlling a temperature of a device under test within a temperature unit as performed by a computer, the method comprising:

for an initial flow rate of fluid introduced into the temperature unit, determining an actuator setting required to achieve a required temperature for the device under test; and

adjusting the actuator to move a block to a gap above the device under test according to the determined actuator setting so as to vary the initial flow rate to achieve a gap flow rate of the fluid flowing across the device under test which achieves the required temperature.

25. The computer readable medium of claim 24, wherein the block comprises a heater block which generates heat receivable by the device under test across the gap, the method further comprising:

determining a heater block setting required to achieve the temperature required for the device under test in conjunction with the determined actuator setting; and

adjusting the heater block to generate the heat according to the determined heater block setting.

26. The computer readable medium of claim 25, the method further comprising detecting a present temperature of the device under test and adjusting one of the heater block and the actuator if the present temperature is not the required temperature.

27. The computer readable medium of claim 25, wherein the determining the actuator and heater block settings comprises detecting a present temperature of the device under test and determining the heater block and the actuator settings if the present temperature is not the required temperature.

28. The computer readable medium of claim 24, the method further comprising creating a suction force within the gap by adjusting a valve through which the fluid is introduced into the temperature unit and controlling a pump which circulates the fluid through the temperature unit.